

## **ABSTRACT**

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A rate control system is disclosed for video coding applications. The rate controller assigns a quantization parameter for video data in a picture in response to complexity indicators indicative of spatial complexity, motion complexity and/or bits per pel of the picture. A virtual buffer based quantizer parameter is proposed based on a virtual buffer fullness analysis and a target rate estimate, which is derived from the complexity indicators. A second quantizer parameter is proposed from a linear regression analysis of quantizer parameters used to code previously coded pictures of similar type (e.g., I pictures, P pictures or B pictures). A coding policy decision unit defines a final quantizer parameter from a comparison of the two proposed quantizer parameters.